

Docket No. F-8601

Ser. No. 10/526,205

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condition for allowance or remove issues from appeal, if required, is respectfully requested. Please amend the above-identified patent application as follows:

AMENDMENTS TO THE CLAIMS:

Please replace the claims with the claims provided in the listing below wherein status, amendments, additions and cancellations are indicated.

1 - 14. (Canceled)

15. (Currently Amended) An anodic oxidation method in which an object is placed in an electrolytic solution provided in a treatment vessel, the object being employed as an anode at which an oxidation reaction generates an oxide film having a large number of pores on a surface of the object, the method comprising the following steps in an order preselected from steps (a) to (e):

(a) supplying water to a treatment vessel;

(b) placing an object to be treated in the treatment vessel;

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(c) dissolving carbon dioxide at a pressure of at least one atmosphere in the water in a sufficient amount to provide a pressurized carbonated water having a pH of 3 to 4;

(d) providing a predetermined quantity of hydrochloric acid to the water to provide a chloride-ion generating agent;

(e) effecting an oxidation reaction to form an oxide film having a large number of pores on the surface of the object;

whereby, the presence of the chloride ion generating agent suppresses a sealing effect caused by a hydrate generated in the pores formed in the oxide film.
comprising the steps of:

~~_____dissolving carbon dioxide that is pressurized to atmospheric pressure or higher into water contained in a treatment vessel that further contains an object to be treated to obtain, in the treatment vessel, a pressurized carbonated water of pH 3 to 4 that is an electrolytic solution having the object to be treated;~~
~~_____supplying a predetermined quantity of hydrochloric acid to the carbonated water as a scaling suppressing ion generating agent to suppress scaling effect caused by a hydrate which is generated in the pores;~~
~~_____electrolyzing the object to be treated in the obtained electrolytic solution contained in a treatment vessel, the object to be treated serving as an anode;~~
~~_____generating an oxide film having a plurality of pores on a surface of the object by oxidative reaction of the object with the electrolytic solution;~~

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16. (Currently Amended) The anodic oxidation method of claim 15, wherein the order of steps is (a), (d), (b), (c) and (e). ~~object to be treated is immersed in the water received in the treatment vessel after supplying the sealing suppressing ion generating agent to the water, the pressurized carbon dioxide is supplied to form the carbonated water, and the oxide film is generated on the surface of the object with the carbonated water.~~

17. (Currently Amended) The anodic oxidation method according to claim 15, wherein, after providing the predetermined quantity of hydrochloric acid, the method further comprises agitating the water with an agitator located on a bottom of the treatment vessel. ~~a predetermined quantity of hydrochloric acid (HCl) is supplied so that a chlorine ion is generated and dispersed.~~

18. (Currently Amended) The anodic oxidation method according to claim 16, wherein the water supplied to the treatment vessel is a service water including a predetermined quantity of hydrochloric acid, whereby the chloride-ion generating agent is provided by the service water. ~~containing chloride ion is used, whereby the sealing suppressing ion agent is simultaneously supplied with the water.~~

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19. (Currently Amended) The anodic oxidation method according to claim 15, wherein ~~generation of the oxide film~~[[,]] is formed simultaneous with the suppression of the sealing effect by the chloride ion generating agent. sealing treatment of the oxide film, and sealing suppressing treatment of the oxide film are carried out simultaneously.

20. (Currently Amended) The anodic oxidation method according to either one of claims 17 or 18 wherein ~~the oxide film sealing treatment is controlled through a~~further comprising preselectively controlling at least one of: concentration of chloride ion generating agent, concentration of the chlorine ion, or a temperature or pressure of the pressurized carbonated water, and pressure of the pressurized carbonated water.

21. (Currently Amended) The anodic oxidation method of claim 15, wherein ~~the oxide film, which has been subjected to sealing treatment and sealing suppressing treatment, is immersed~~further comprising preselectively controlling the immersion time the of the object in the carbonated water, so that whereby size of the pores of the oxide film is made greater~~are enlarged in diameter.~~

22. (Currently Amended) The anodic oxidation method of claim 15, wherein ~~a prescribed~~further comprising depositing a dye is precipitated or

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~~absorbed on~~ in the pores of the oxide film ~~after the chloride ion generating agent~~
~~has suppressed the sealing effect caused by the hydrate, which has been subjected~~
~~to the sealing treatment and sealing suppressing treatment, or prescribed catalyst~~
~~pieces are carried in the pores.~~

23. (Currently Amended) The anodic oxidation method of claim 15,
wherein the carbonated water having an acid concentration of pH 3 to 4 is formed
by dissolving a in step (c), supercritical or subcritical carbon dioxide [[into]] is
dissolved in the water.

24. (Currently Amended) An anodic oxidation method comprising the
following steps:

supplying to a treatment vessel an electrolytic solution comprising
carbonated water and a chloride ion generating agent;

placing an object to be treated in the treatment vessel;

effecting an oxidation reaction, whereby an oxide film having a large
number of pores is formed on the surface of the object and the chloride ion
generating agent suppresses a sealing effect caused by a hydrate generated in the
pores formed in the oxide film;

removing the electrolytic solution from the treatment vessel;

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adding a catalyst-generating solution of palladium chloride and distilled water to the treatment vessel;

immersing the object in the catalyst-generating solution;

dissolving a pressurized carbon dioxide into the catalyst-generating solution;

whereby, after the object has been immersed in the catalyst-generating solution for an effective period of time, palladium is deposited on the oxide film.

~~The anodic oxidation method of claim 17, wherein the water received in the treatment vessel is distilled water combined with a catalyst-carrying solution, wherein the object to be treated has an oxide film formed thereon is immersed in the distilled water, pressurized carbon dioxide is dissolved in the distilled water so as to form a highly pressurized carbonated water, and catalyst is carried on the oxide film of the object.~~

25. (Currently Amended) A method of anodic electrolytic oxidation of an object to be treated comprising the steps of:

providing ~~[[the]]~~ an object to be treated in a treatment vessel and
~~[[,]]~~ substantially surrounded by surrounding the object with water;
~~in a treatment vessel;~~
providing carbonated water having a pH of 3 to 4 by combining
carbon dioxide at or above atmospheric pressure with the water ~~to~~
a pH of 3 or 4;

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subjecting the object to be treated to anodic electrolysis, wherein the object to be treated serves as the anode, ~~to form whereby~~ an oxide film having a plurality of pores is formed on ~~[[the]]~~ a surface of the object.

26. (Currently Amended) The method of claim 25 further comprising the step of combining ~~with the water~~ a source of ions with the water, whereby, during the anodic electrolysis, the ions provided by the source of ions effect a suppression of the ~~for suppressing sealing of pores in an electrolytically-generated oxide film having a~~ the plurality of pores ~~that is~~ on the surface of an object.

27. (Currently Amended) The method of claim 26 wherein the source of ions derives from ~~ions for suppressing sealing of pores in an electrolytically-generated oxide film are chloride ions and the source of the chloride ions is~~ hydrogen chloride.

28. (Currently Amended) The method of claim 25 wherein the water is chloride ion-containing ~~water is service water that contains chloride ions.~~

29. (Currently Amended) The method of ~~either~~ one of claims 15, 24, 25, or 26 further comprising, ~~prior to the providing step, the step of degreasing the~~ object to be treated ~~[[using]]~~ with supercritical carbon dioxide.

30. (New) The anodic oxidation method of claim 15, further comprising the step of depositing a catalyst in the pores of the oxide film after the